Feasible Action (Recommended Activity)

- 0-Do Nothing
- 1-Debris Removal
- 2-Vegetation Removal
- 3-Flush Sediment
- 4-Channel Stabilization (alignment, paving, excavating etc.)
- 5-Scour Hole Repair
- 6-Embankment Stabilization (RSP, vegetation, etc.)
- 7-Add Wingwall
- 8-Hydrology/Hydrualic Investigation
- 9-Add Energy Disapators
- 10-Add Debris Protection (riser pipe, debris rack, etc.)
- 11-Inspect Roadway
- 12-Joint Sealing/Repair
- 13-Concrete Repair (patching cracks, spalls, & slabs)
- 14-Invert Repair (paving, armoring, coating etc.)
- 15-Culvert Barrel Lining
- 16-Replace a Section
- 17-Replace
- 18-Undertermined
- 19-Other

Urgency Factors

- A. Complete Task Immediately
- B. Before Next Rain Season (October 15 April 15)
- C. Program for next Fiscal Year
- D. May be Deferred Past Next Fiscal Year

Condition	RIGID CULVERT BARRI Description	Feasible Actions
0	No Deficiencies Found	0-Do Nothing
1		5
1	Waterway Adequacy: Minor debris and sediment, less than 25% blockage.	0-Do Nothing 1-Debris Removal
	Alignment: Minor settlement and isolated misalignments.	3-Flush Sediment
	Joints: Tight, no openings. Minor cracking and spalling at	18-Undetermined
	joints.	19-Other
	Material: Minor spalling and cracking. Minor scaling of	
	invert.	
2	Waterway Adequacy: Significant debris and sediment,	0-Do Nothing
	between 25% and 50% blockage.	1-Debris Removal
	Alignment: Significant settlement and misalignment	3-Flush Sediment
	throughout.	12-Joint Sealing
	Joints: Joint separation allowing backfill to infiltrate.	13-Croncrete Repair
	Significant cracking and spalling at joints.	14-Invert Repair (Paving/Armoring)
	Material: Longitudinal cracks between 0.01 and 0.1 inches	15-Culvert Barrel Lining
	in width. Invert spalls up to 0.25 inches. Significant spalling	18-Undetermined
	with some exposed reinforcing steel.	19-Other
3	Waterway Adequacy: Between 50% and 75% blockage,	1-Debris Removal
	flooding of roadway and/or adjacent properties.	3-Flush Sediment
	Alignment: Poor alignment and major settlement causing	12-Joint Sealing
	ponding of water.	13-Croncrete Repair
	Joints: Significant openings, dislocated joints with exposed fill.	14-Invert Repair
		15-Culvert Barrel Lining
	Material: Longitudinal cracks larger than 0.1 inches in width. Invert scaling larger than 0.5-inches. Major spalling	16-Replace a Section
	and slabbing with exposed reinforcing steel. Major corrosion	17-Replace Culvert Barrel 18-Undetermined
	of reinforcing steel.	19-Other
	of femiliotenig steet.	19-Other
4	Waterway Adequacy: Over 75% blockage.	1-Debris Removal
·	Alignment: Culvert has stopped functioning due to	3-Flush Sediment
	alignment problems.	16-Replace a Section
	Joints: Failed	17-Replace Culvert Barrel
	Material: Complete to minor collapse of barrel.	18-Undetermined
	,	19-Other
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A \square Minor B \square SHOPP \square		

FLEXIBLE CULVERT BARREL (STEEL)		
Condition	Description	Feasible Actions
0	No Deficiencies found	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than 25% blockage. Shape: Good condition. Minor isolated distortions in top half. Minor flattening of invert. Horizontal diameter not greater than 10% of design. Seams and Joints: Tight, no openings. Minor cracking at bolt holes. Material: Superficial rust, minor pitting.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 14-Invert Repair (Paving/Armoring) 18-Undetermined 19-Other
2	Waterway Adequacy: Significant debris and sediment, between 25% and 50% blockage. Shape: Significant distortion at isolated locations in top half. Significant flattening of invert. Some kinks present. Horizontal diameter greater than 15% of design. Seams and Joints: Significant cracking at bolt holes. Partial separation at seems. Infiltration of backfill through seams and joints. Material: Scattered heavy rusting and deep pitting.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 18-Undetermined 19-Other
3	Waterway Adequacy: Between 50% and 75% blockage. Flooding of roadway and/or adjacent properties. Shape: Major distortions throughout length of pipe. Major kinks and deflections. Flattening of crown and/or invert. Horizontal diameter greater than 20% of design. Seams and Joints: Major cracking at bolt holes. Deflections of seams. Open joints. Infiltration of backfill. Material: Extreme rusting, deep pitting, perforations present.	1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 17-Replace Culvert Barrel 18-Undetermined 19-Other
4	Waterway Adequacy: Over 75% blockage. Shape: Partially collapsed or complete collapse of crown. Seams and Joints: Failed Material: Extensive rust and perforations.	17-Replace Culvert Barrel 18-Undetermined 19-Other
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		

Description ciencies found ray Adequacy: Minor debris and sediment, less than ockage. Good condition. Minor isolated distortions in top nor flattening of invert. Horizontal diameter not than 10% of design. and Joints: Tight, no openings. Minor cracking at es. al: Superficial corrosion, minor pitting. ray Adequacy: Significant debris and sediment, 25% and 50% blockage. Significant distortion at isolated locations in top half. ant flattening of invert. Some kinks present. tal diameter greater than 15% of design. and Joints: Significant cracking at bolt holes. Partial on at seems. Infiltration of backfill through seams and	Feasible Actions 0-Do Nothing 1-Debris Removal 3-Flush Sediment 14-Invert Repair (Paving/Armoring) 18-Undetermined 19-Other 0-Do Nothing 1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 18-Undetermined
Good condition. Minor isolated distortions in top nor flattening of invert. Horizontal diameter not than 10% of design. And Joints: Tight, no openings. Minor cracking at es. Al: Superficial corrosion, minor pitting. Adequacy: Significant debris and sediment, a 25% and 50% blockage. Significant distortion at isolated locations in top half. ant flattening of invert. Some kinks present. Ital diameter greater than 15% of design. And Joints: Significant cracking at bolt holes. Partial on at seems. Infiltration of backfill through seams and	0-Do Nothing 1-Debris Removal 3-Flush Sediment 14-Invert Repair (Paving/Armoring) 18-Undetermined 19-Other 0-Do Nothing 1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel
ray Adequacy: Significant debris and sediment, a 25% and 50% blockage. Significant distortion at isolated locations in top half. ant flattening of invert. Some kinks present. tal diameter greater than 15% of design. and Joints: Significant cracking at bolt holes. Partial on at seems. Infiltration of backfill through seams and	1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel
al: Scattered heavy corrosion, deep pitting.	19-Other
g of roadway and/or adjacent properties. Major distortions throughout length of pipe. Major ad deflections. Flattening of crown and/or invert. Ital diameter greater than 20% of design. And Joints: Major cracking at bolt holes. Deflections is. Open joints. Infiltration of backfill.	1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 17-Replace Culvert 18-Undetermined 19-Other
Partially collapsed or complete collapse of crown. and Joints: Failed	16-Replace Culvert 18-Undetermined 19-Other
	ray Adequacy: Between 50% and 75% blockage. g of roadway and/or adjacent properties. Major distortions throughout length of pipe. Major ad deflections. Flattening of crown and/or invert. Ital diameter greater than 20% of design. And Joints: Major cracking at bolt holes. Deflections is open joints. Infiltration of backfill. All: Extreme corrosion, deep pitting, perforations Vay Adequacy: Over 75% blockage. Partially collapsed or complete collapse of crown. And Joints: Failed All: Extensive corrosion and perforations. B C D (circle one) V: Maintenance Crew Contract

NO END TREATMENT (RC)		
Condition	Description	Feasible Actions
0	No Deficiencies Fond	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than 25% blockage. Alignment: Minor settlement and isolated misalignments. Joints: Tight, no openings. Minor cracking and spalling at joints. Material: Minor spalling and cracking. Minor scaling of invert.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 18-Undetermined 19-Other
2	Waterway Adequacy: Significant debris and sediment, between 25% and 50% blockage. Alignment: Significant settlement and misalignment throughout. Joints: Joint separation allowing backfill to infiltrate. Significant cracking and spalling at joints. Material: Longitudinal cracks between 0.01 and 0.1 inches in width. Invert spalls up to 0.25 inches. Significant spalling with some exposed reinforcing steel.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 12-Joint Sealing 13-Croncrete Repair 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 18-Undetermined 19-Other
3	Waterway Adequacy: Between 50% and 75% blockage, flooding of roadway and/or adjacent properties. Alignment: Poor alignment and major settlement causing ponding of water. Joints: Significant openings, dislocated joints with exposed fill. Material: Longitudinal cracks larger than 0.1 inches in width. Invert scaling larger than 0.5-inches. Major spalling and slabbing with exposed reinforcing steel. Major corrosion of reinforcing steel.	1-Debris Removal 3-Flush Sediment 12-Joint Sealing 13-Croncrete Repair 14-Invert Repair 15-Culvert Barrel Lining 16-Replace a Section 17-Replace Culvert Barrel 18-Undetermined 19-Other
4	Waterway Adequacy: Over 75% blockage. Alignment: Culvert has stopped functioning due to alignment problems. Joints: Failed Material: Complete to minor collapse of barrel.	1-Debris Removal 3-Flush Sediment 16-Replace a Section 17-Replace Culvert Barrel 18-Undetermined 19-Other
Urgency Factor: A B C D (circle one) To be Completed by: Maintenance Crew □ Contract □ Contract Funding Source: Minor A □ Minor B □ SHOPP □		

NO END TREATMENT (FS)		
Condition	Description	Feasible Actions
0	No Deficiencies Fond	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than 25% blockage. Shape: Good condition. Minor isolated distortions in top half. Minor flattening of invert. Horizontal diameter not greater than 10% of design. Seams and Joints: Tight, no openings. Minor cracking at bolt holes. Material: Superficial rust, minor pitting.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 14-Invert Repair (Paving/Armoring) 18-Undetermined 19-Other
2	Waterway Adequacy: Significant debris and sediment, between 25% and 50% blockage. Shape: Significant distortion at isolated locations in top half. Significant flattening of invert. Some kinks present. Horizontal diameter greater than 15% of design. Seams and Joints: Significant cracking at bolt holes. Partial separation at seems. Infiltration of backfill through seams and joints. Material: Scattered heavy rusting and deep pitting.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 18-Undetermined 19-Other
3	Waterway Adequacy: Between 50% and 75% blockage. Flooding of roadway and/or adjacent properties. Shape: Major distortions throughout length of pipe. Major kinks and deflections. Flattening of crown and/or invert. Horizontal diameter greater than 20% of design. Seams and Joints: Major cracking at bolt holes. Deflections of seams. Open joints. Infiltration of backfill. Material: Extreme rusting, deep pitting, perforations present.	1-Debris Removal 3-Flush Sediment 12-Joint Sealing 14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining 16-Replace a Section Barrel 17-Replace Culvert Barrel 18-Undetermined 19-Other
4 Hrgency Fa	Waterway Adequacy: Over 75% blockage. Shape: Partially collapsed or complete collapse of crown. Seams and Joints: Failed Material: Extensive rust and perforations. ctor: A B C D (circle one)	1-Debris Removal 3-Flush Sediment 16-Replace a Section 17-Replace Culvert Barrel 18-Undetermined 19-Other
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		

NO END TREATMENT (FA)		
Condition	Description	Feasible Actions
0	No Deficiencies Fond	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than	0-Do Nothing
	25% blockage.	1-Debris Removal
	Shape: Good condition. Minor isolated distortions in top half.	3-Flush Sediment
	Minor flattening of invert. Horizontal diameter not greater than	14-Invert Repair (Paving/Armoring)
	10% of design.	18-Undetermined
	Seams and Joints: Tight, no openings. Minor cracking at bolt	19-Other
	holes.	
2	Material: Superficial corrosion, minor pitting.	0 D M 41;
2	Waterway Adequacy: Significant debris and sediment, between	0-Do Nothing
	25% and 50% blockage.	1-Debris Removal
	Shape: Significant distortion at isolated locations in top half. Significant flattening of invert. Some kinks present. Horizontal	3-Flush Sediment
		12-Joint Sealing
	diameter greater than 15% of design. Seams and Joints: Significant cracking at bolt holes. Partial	14-Invert Repair (Paving/Armoring)
	separation at seems. Infiltration of backfill through seams and	15-Culvert Barrel Lining
	joints.	16-Replace a Section Barrel
	Material: Scattered heavy corrosion, deep pitting.	18-Undetermined
2		19-Other
3	Waterway Adequacy: Between 50% and 75% blockage.	1-Debris Removal
	Flooding of roadway and/or adjacent properties.	3-Flush Sediment
	Shape: Major distortions throughout length of pipe. Major kinks	12-Joint Sealing
	and deflections. Flattening of crown and/or invert. Horizontal diameter greater than 20% of design.	14-Invert Repair (Paving/Armoring) 15-Culvert Barrel Lining
	Seams and Joints: Major cracking at bolt holes. Deflections of	16-Replace a Section Barrel
	seams. Open joints. Infiltration of backfill.	17-Replace Culvert
	Material: Extreme corrosion, deep pitting, perforations present.	18-Undetermined
	waterial. Extreme corrosion, deep pitting, perforations present.	19-Other
4	Waterway Adequacy: Over 75% blockage.	17-Replace Culvert
•	Shape: Partially collapsed or complete collapse of crown.	18-Undetermined
	Seams and Joints: Failed	19-Other
	Material: Extensive corrosion and perforations.	
Urgency Fa	ctor: A B C D (circle one)	,
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A D Minor R D SHODD D		

Urgency Factor: A B C D (circle one)	
To be Completed by: Maintenance Crew □ Contract □	
Contract Funding Source: Minor A \square Minor B \square SHOPP \square	

HEADWALL		
Condition	Description	Feasible Actions
0	No Deficiencies Found	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than 25% blockage. Streambed: Minor debris and sediment. Material: Minor spalling and cracking. Minor spalling of invert.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 18-Undetermined 19-Other
2	Waterway Adequacy: Significant debris and sediment, less than 50% blockage. Streambed: Channel alignment has changed. Significant debris in streambed. Material: Significant spalling with some exposed reinforcing steel.	0-Do Nothing 1-Debris Removal 3-Flush Sediment 4-Channel Stabilization 13-Concrete Repair (Patch Spalls/Slabbing) 18-Undetermined 19-Other
3	Waterway Adequacy: Between 50% and 75% blockage, flooding of roadway and/or adjacent properties. Streamed: Channel alignment causing scour holes, bank erosion, and is threatening structure. Debris in streambed is causing flooding and/or diversion of water. Material: Major spalling and/or slabbing. Major corrosion of reinforcing steel. Slightly miss-aligned joint with culvert.	1-Debris Removal 3-Flush Sediment 4-Channel Stabilization 12-Joint Sealing 13-Concrete Repair (Patch Spalls/Slabbing) 17-Replace Culvert 18-Undetermined 19-Other
4	Waterway Adequacy: Over 75% blockage, flooding of roadway and/or adjacent properties. Streambed: Structure weakened by poor alignment of channel, bank erosion, or severe scour. Material: Headwall has failed, is endanger of tipping over, and/or separation from culvert barrel.	1-Debris Removal 3-Flush Sediment 4-Channel Stabilization 17-Replace Headwall 18-Undetermined 19-Other
Urgency Factor: A B C D (circle one) To be Completed by: Maintenance Crew □ Contract □ Contract Funding Source: Minor A □ Minor B □ SHOPP □		

FLARED END SECTION		
Condition	Description	Feasible Actions
0	No Deficiencies Found	0-Do Nothing
1	Waterway Adequacy: Minor debris and sediment, less than 25%	0-Do Nothing
	blockage.	1-Debris Removal
	Streambed: Minor debris and sediment.	18-Undetermined
	Material: Superficial rust, minor pitting.	19-Other
2	Waterway Adequacy: Significant debris and sediment, between	0-Do Nothing
	25% and 50% blockage.	1-Debris Removal
	Streambed: Channel alignment has changed. Significant debris in	4-Channel Stabilization
	streambed.	18-Undetermined
	Material: Scattered heavy rusting and deep pitting.	19-Other
3	Waterway Adequacy: Between 50% and 75% blockage, flooding	1-Debris Removal
	of roadway and/or adjacent properties.	4-Channel Stabilization
	Streamed: Channel alignment causing scour holes, bank erosion,	17-Replace Flared End Section
	and is threatening structure. Debris in streambed is causing	18-Undetermined
	flooding and/or diversion of water.	19-Other
	Material: Extreme rusting, deep pitting, perforations present.	
	Joint separation from culvert.	
4	Waterway Adequacy: Over 75% blockage, flooding of roadway	1-Debris Removal
	and/or adjacent properties.	4-Channel Stabilization
	Streambed: Structure weakened by poor alignment of channel,	17-Replace Flared End Section
	bank erosion, or severe scour.	18-Undetermined
	Material: Extensive perforations present. Flared end section	19-Other
	completely separated from culvert.	
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		

DRAINAGE INLET		
Condition	Description	Feasible Actions
0	No Deficiencies Found	0-Do Nothing
1	Waterway Adequacy: Minor debris and	0-Do Nothing
	sediment, less than 25% blockage.	1-Debris Removal
	Material: Superficial rust, minor pitting of	3-Flush Sediment
	grate.	19-Other
2	Waterway Adequacy: Significant debris	0-Do Nothing
	and sediment, between 25% and 50%	1-Debris Removal
	blockage.	3-Fush Sediment
	Material: Scattered heavy rusting and deep	19-Other
	pitting.	
3	Waterway Adequacy: More than 50%	1-Debris Removal
	blockage, flooding of roadway and/or	3-Flush Sediment
	adjacent properties.	17-Replace Grate
	Material: Grate deformed. Concrete	19-Other
	chipped or spalled. Ladder missing.	
4	Waterway Adequacy: Complete blockage,	1-Debris Removal
	flooding of roadway and/or adjacent	3-Flush Sediment
	properties.	16-Replace Grate or Inlet
	Material: Grate unusable or usable	19-Other
	missing. Reinforcing steel exposed. Inlet	
	collapsed.	
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		

SCOUR/EMBANKMENT		
Condition	Description	Feasible Actions
0	No Deficiencies Found	0-Do Nothing
1	Scour: Minor bed scour present. Embankment: Minor erosion of embankment. Piping: No piping present.	0-Do Nothing
2	Scour: Significant undermining of end treatment, culvert barrel, or footing due to scour. Embankment: Significant slope gullying. Backfill behind wingwalls or headwalls displaced. Piping: Some evidence of piping.	4-Channel Stabilization 5-Scour Hole Repair 6-Embankment Stabilization 11-Inspect Roadway 18-Other
3	Scour: End treatment, culvert barrel, or footing has been, cracked, displaced or settled due to bank erosion or scour. Embankment: Major erosion of slope, guardrail displaced/settled, posts loosened/separated from soil. Wingwalls or headwalls tipping. Piping: Piping has caused significant erosion of embankment.	4-Channel Stabilization 5-Scour Hole Repair 6-Embankment Stabilization 11-Inspect Roadway Fill 18-Other
4	Scour: End treatment, culvert barrel, or footing weakened and endanger of immediate collapse. Embankment: Guardrail, wingwalls, headwalls, or roadway weakened and endanger of immediate failure. Piping: Piping has caused weakening of structure, embankment, or roadway.	4-Channel Stabilization 5-Scour Hole Repair 6-Embankment Stabilization 11-Inspect Roadway 18-Other
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		

ROADWAY		
Condition	Description	Feasible Actions
0	No deficiencies found.	0-Do Nothing
1	Pavement cracks over culvert.	0-Do Nothing
2	Dips/sags in pavement or guardrail over culvert. Longitudinal separation, differential displacement of PCC slabs. Pavement patches or evidence that the roadway has been built-up.	6-Embankment Stabilization 11-Inspect Roadway Fill 18-Other
3	Considerable settlement or misalignment of pavement/PCC slabs.	6-Embankment Stabilization 11-Inspect Roadway Fill 18-Other
4	Settlement of roadway has caused an deteriorating ride quality.	6-Embankment Stabilization 11-Inspect Roadway Fill 18-Other
Urgency Factor: A B C D (circle one)		
To be Completed by: Maintenance Crew □ Contract □		
Contract Funding Source: Minor A □ Minor B □ SHOPP □		